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# RESEARCH NOTE

## ADDITIONAL RECORDS OF AMPHIBIANS AND REPTILES FROM INDIANA COUNTY, PENNSYLVANIA[1]

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### ABSTRACT

**Thirteen species of amphibians and reptiles were opportunistically collected in Indiana County, Pennsylvania from 1980-1984, mostly in the northeastern Townships of Banks and Canoe. Included were two species of frogs and toads, six salamanders, three snakes and two turtles. All species have previously been reported from the county, but the box turtle (*Terrapene carolina*) record now extends the known distribution of the species over 30 km northward into the northeastern corner of the county. Wood turtles (*Clemmys insculpta*) and pond-breeding amphibians such as the wood frog (*Rana sylvatica*) are species at risk that may be declining, and additional surveys and monitoring will be required to verify their continued survival in the region.**

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### INTRODUCTION

The topic of biodiversity and its preservation has generated considerable interest in recent years and numerous volumes have been published on the topic (see Majumdar et al., 1994). Documentation of biodiversity requires detailed knowledge of the number of species in a particular area as a minimum. However, community composition is dynamic and continued monitoring is required to chronicle fluctuations in species composition over time. Short-term perceptions of species diversity can lead to serious errors in resource management decisions (Gibbons et al., 1997). Museums play an important role in documenting changes in biodiversity by maintaining collections of voucher specimens (Miller, 1985) that may be temporally diverse. Periodic sampling of regional flora and fauna over long periods of time contributes to an understanding of the dynamics, or stasis, of biodiversity at the level of species (Gibbons et al., 1997).

Pennsylvania has a relatively diverse herpetofauna with 76* species of amphibians and reptiles recorded from the Commonwealth (Shaffer, 1991). The distributions of many species are well known, primarily due to active research conducted by herpetologists at the Carnegie Museum of Natural History during this century (McCoy, 1982). However, many geographic and temporal gaps are apparent in our understanding of the distributions of even the most common species in the state (Hulse and Hulse, 1992). Indiana County has been well surveyed starting with the efforts of the noted local naturalist R.M. Wehrle who collected extensively in the area (Stewart, 1913), even discovering *Plethodon wehrlei* (Netting, 1936a), a salamander whose type-locality is in the county. In the first publication of the herpetofauna of Indiana County, Netting (1936b) listed 43 species that were represented by literature records or voucher specimens in the Carnegie Museum collection. One species listed by Netting, the ribbon snake (*Thamnophis sauritus*), was not listed as a member of Indiana County's herpetofauna by McCoy (1982). The purpose of this paper is to present the results of observations and collections of amphibians and reptiles in Indiana County from 1980-1984; almost half of a century after the work of Netting (1936b).

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*Including *Lampropeltis getulus*, a species that has never been positively confirmed in the state (McCoy, 1982).

## MATERIALS AND METHODS

During surveys of native brook trout (*Salvelinus fontinalis*) populations along the upper West Branch of the Susquehanna River and its tributaries (Lovich and Lovich, 1996), amphibians and reptiles were observed and collected opportunistically. Most collecting was conducted in the northern Townships of Banks and Canoe. Preserved specimens were deposited in museum collections and museum acronyms follow Leviton et al. (1985) and Leviton and Gibbs (1988) as follows; GMU = George Mason University, USNM = United States National Museum.

## RESULTS AND DISCUSSION

Thirteen species of amphibians and reptiles were observed during the study including two species of frogs and toads, six salamanders, three snakes and two turtles. A list of locality records and voucher specimens follows. Common names are listed in Table 1.

TABLE 1. List of amphibians and reptiles reported from Indiana County, Pennsylvania by McCoy (1982) using his nomenclature. Common names apply to local subspecies. Species followed with an asterisk were listed by Netting (1936b) as occurring in the county.

**Salamanders**

*Cryptobranchus alleganiensis* (eastern hellbender)*
*Necturus maculosus* (mudpuppy)*
*Ambystoma maculatum* (spotted salamander)*
*Ambystoma opacum* (marbled salamander)*
*Notophthalmus viridescens* (red-spotted newt)*
*Desmognathus fuscus* (northern dusky salamander)*
*Desmognathus monticola* (Appalachian seal salamander)*
*Desmognathus ochrophaeus* (mountain dusky salamander)*
*Plethodon cinereus* (redbacked salamander)*
*Plethodon glutinosus* (slimy salamander)*
*Plethodon hoffmani* (valley and ridge salamander)
*Plethodon wehrlei* (Wehrle's salamander)*
*Hemidactylium scutatum* (four-toed salamander)
*Gyrinophilus porphryticus* (northern spring salamander)*
*Pseudotriton ruber* (northern red salamander)*
*Eurycea bislineata* (northern two-lined salamander)*
*Eurycea longicauda* (long-tailed salamander)*

**Frogs and toads**

*Bufo americanus* (eastern American toad)*
*Hyla crucifer* (northern spring peeper)*
*Hyla versicolor* (gray treefrog)*
*Pseudacris brachyphona* (mountain chorus frog)*
*Rana catesbeiana* (bullfrog)*
*Rana clamitans* (green frog)*
*Rana palustris* (pickerel frog)*
*Rana pipiens* (northern leopard frog)*
*Rana sylvatica* (wood frog)*

**Turtles**

*Chelydra serpentina* (common snapping turtle)*
*Clemmys insculpta* (wood turtle)*
*Terrapene carolina* (eastern box turtle)*
*Chrysemys picta* (midland painted turtle)*
*Trionyx spiniferus* (eastern spiny softshell)*

**Lizards**

*Sceloporus undulatus* (northern fence lizard)

**Snakes**

*Regina septemvittata* (queen snake)*
*Nerodia sipedon* (northern water snake)*
*Storeria dekayi* (northern brown snake)*
*Storeria occipitomaculata* (northern redbellied snake)*
*Thamnophis sirtalis* (eastern garter snake)*
*Heterodon platyrhinos* (eastern hognose snake)*
*Diadophis punctatus* (northern ringneck snake)*
*Coluber constrictor* (northern black racer)*
*Opheodrys vernalis* (eastern smooth green snake)*
*Elaphe obsoleta* (black rat snake)*
*Lampropeltis triangulum* (eastern milk snake)*
*Agkistrodon contortrix* (northern copperhead)*
*Crotalus horridus* (timber rattlesnake)*

### *Salamanders*

*Desmognathus ochrophaeus* - 7 specimens collected along the headwaters of Brady Run, 1.1 km WSW Urey (GMU 467-471, 473: USNM 291337). 3 specimens collected at a spring, 1.1 km SW Urey (GMU 474-476).

*Eurycea longicauda* - 1 specimen collected near Locust (GMU 744).

*Gyrinophilus porphryticus* - 1 specimen collected in a well house, 1.6 km S Johnsonburg (USNM 291340)

*Notophthalmus viridescens* - 2 specimens collected in Urey (GMU 1737; USNM 291335). 1 specimen collected along Keal Run, State Game Lands #174 (GMU 1738).

*Plethodon cinereus* - 2 specimens collected in Urey (GMU 1131-32).

*Plethodon glutinosus* - 1 specimen observed along the headwaters of Brady Run, 1.1 km WSW Urey (no voucher).

### *Frogs and toads*

*Bufo americanus* - 2 specimens collected near the headwaters of Brady Run, 1.1 km WSW Urey (GMU 1129; USNM 291336).

*Rana sylvatica* - 2 specimens collected in Urey (USNM 291333-34).

### *Snakes*

*Diadophis punctatus* - 2 specimens collected near the headwaters of Brady Run, 1.1 km WSW Urey (USNM 291338-39).

*Elaphe obsoleta* - shed skin observed near Smithport (no voucher).

*Thamnophis sirtalis* - 1 specimen collected along the headwaters of Brady Run, 1.1 km WSW Urey (GMU 472). 1 specimen collected 1.6 km W Smithport (GMU 743).

*Turtles*

*Clemmys insculpta* - 1 specimen collected between Saltsburg and Clarksburg (GMU 1798). 1 specimen collected along Straight Run, 0.4 km upstream from Hemlock Lake (GMU 2104). 1 specimen observed along the headwaters of Brady Run, 1.1 km WSW Urey (no voucher).

*Terrapene carolina* - 1 specimen collected near Straight Run, 1.6 km NW Smithport (GMU 756).

All of the species observed in this study were previously collected from Indiana County (Netting, 1936b). In a more recent compilation, McCoy (1982) listed 26 species of amphibians and 19 species of reptiles with collection localities in Indiana County (Table 1).

Records for some of the species observed in the present study deserve further discussion. For example, the box turtle (*Terrapene carolina*) is known mostly from the southern portion of the county (Netting, 1936b; McCoy, 1982). The record reported herein was noted previously by Lovich (1982) since it extended the local distributional limit for the species into the extreme northeastern corner of the county, over 30 km farther north than presently known. The distribution of box turtles is influenced by climate, and to some extent, by local elimination by prehistoric humans who utilized the turtles for food, medicine and ritual (Adler, 1969). Additional research is needed to define the northern distributional limit in Pennsylvania and the factors that influence it.

Although none of the species observed are species of special concern from the standpoint of conservation in Pennsylvania (McCoy, 1985), the wood turtle (*Clemmys insculpta*) is listed under Appendix II of CITES (Convention on International Trade in Endangered Species) as a species that may become threatened if its trade is not regulated (Lovich, 1995). Wood turtle populations have declined in many areas due to habitat destruction and overcollecting for the pet trade (Ernst et al., 1994) and population extirpations have been documented (Garber and Burger, 1995). The perception that populations may be viable based on limited observations of adults can be misleading because of the longevity of individual turtles. The continued survival of wood turtles in Indiana County is by no means assured and additional efforts should be made to locate and protect breeding populations.

Similarly, many species of pond-breeding amphibians are threatened by acid precipitation. Survival of wood frog (*Rana sylvatica*) embryos and larvae is dramatically reduced by increased acidity (Grant and Licht, 1993). Northern Indiana County is severely impacted by acid mine drainage and atmospheric deposition of acids (Sharpe et al., 1984, 1987; Lovich and Lovich, 1996). Documentation of the continued viability of sensitive amphibian populations, and those of other species in the area, will require additional observations and monitoring over time.

Indiana County, like many in Pennsylvania, has undergone tremendous change. While most changes, such as habitat conversion and destruction, have affected wildlife negatively, some species have continued to prosper (McCoy et al., 1994). Documentation of locality records with voucher specimens and published records is an essential part of monitoring and protecting biodiversity and documenting the dynamic impacts of change.

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